

Describing out-of-hospital cardiac arrest to improve recognition: An analysis of online cardiac arrest videos

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Abstract

Out-of-hospital cardiac arrests (OOHCA) often go untreated by lay-rescuers. One barrier to response is poor recognition. This study's purpose is to describe OOHCA using publicly available videos. Twenty-six of the internet's most popular video-hosting and social media platforms were consecutively searched in English and Chinese August 3rd to January 20th, 2018 until each site returned 100 consecutive unrelated videos. Video inclusion required: i) medium to high definition video quality (>360p and >10 frames per second), ii) that cardiac arrest be confirmed from two sources (i.e. news, social media, etc.), iii) 100% reviewer agreement on pre-arrest and post-arrest signs, and iv) arrest have non-traumatic etiology. Eight hundred and twenty one videos were identified; 165 videos met inclusion criteria and underwent content analysis. 68, victims (41%) exhibited pre-arrest signs: 34 (21%) had unsteady gait; 42 (26%) touched their head or neck; and 33 (20%) hip-flexed or squatted prior to collapse. After collapse, 97 (59%) exhibited signs of life such as agonal breathing (71, 43%) or posturing/convulsions (39, 24%). Most common lay-responses were: 38 (28%) victims were shaken, 28 (17%) received chest compression(s), 18 (11%) had their head held, 17 (10%) were unsuccessfully lifted to a standing position, 9 (5%) had their legs raised, and 5 (3%) had an AED applied. Analysis suggests three times as many victims of cardiac arrest show some signs of life compared to no signs of life, and that bystander response is poor. Publicly available videos offer rich examples of what OOHCA collapse and resuscitation look like and could inform training.

Key words

cardiac arrest, out-of-hospital cardiac arrest, emergency dispatch, response, recognition

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